

## **REMARKS / ARGUMENTS**

Claims 74-84 and 94 are under consideration and are presently rejected. Claims 85-93 are cancelled. New claim 95 and new independent claim 96 have been added. Support for the new claims is found on pages 4 and 5 of the application.

### Rejection under 35 U.S.C. 103

The Examiner has rejected claims 74-84 and 94 as being unpatentable over Lipford (Vaccine 1994 12(1) 73-80) in view of the teachings of Kensil (US 5583112). The Examiner explains that Lipford teaches the making of an immunogenic composition comprising 5mg of cholesterol and 0.4mg of Quil A and that the ratio of cholesterol to Quil A is 12.5:1. The Examiner correctly points out that Lipford does not teach the use of purified QS21. The Examiner relies on Kensil, which teaches QS-21, a component of Quil-A, has immunogenic properties, suggests that it would be obvious to a person of ordinary skill in the art to substitute QS21, one of the purified saponins of Kensil, for the crude Quil A extract used in Lipford, and thereby arrive at the Applicants' claimed invention. Additionally, the Examiner suggests that one of skill in the art would be motivated to maintain the ratios of Quil A to sterol disclosed in Lipford, or reduce the amount of saponin in the composition to take into account the adjuvant activity of QS21, as reported by Kensil.

With respect, Applicants traverse the rejection. For the reasons expressed in Applicants' earlier responses, Applicants maintain that a person of ordinary skill in the art would not combine the teachings of Lipford with the disclosure in Kensil, and therefore would find no motivation to substitute QS21 for the Quil A in the formulations of Lipford. Kensil teaches purified saponins derived from Quil A, all of which are different from Quil A and all of which are different from each other. Kensil discloses that many of the purified saponins exhibit adjuvant effects and that "the purified saponins have demonstrated

adjuvant effects at lower doses than saponin extracts.” QS21 is mentioned as one of a group of predominant purified saponins (including QA 7, QA17 and QA18) that demonstrated adjuvant activity “at doses of 4.5ug carbohydrate or less.” Column 6 lines 34-37. Additionally, Kensil discloses significant differences in hemolysis among the purified saponins. Kensil reports that QS21 caused “partial hemolysis at concentrations as low as 25ug/ml” while other purified saponins caused partial hemolysis only at higher concentrations or, in the case of QA7, caused no hemolysis. Column 20 lines 36-41. Taken as a whole, the Kensil reference demonstrates that the purified saponins have different properties. Given the various purified saponins described in the Kensil reference, one skilled in the art would not be motivated to select QS21 as a substitute for Quil A in the composition of Lipford, above any of the other purified saponin adjuvants disclosed.

In light of the above argument, Applicants request that the Examiner withdraw the rejection and favourably reconsider the claims as presented.

The Commissioner is hereby authorized to charge any fees required or credit any overpayment to Deposit Account No. 07-1392.

Respectfully submitted,

Dated: January 16, 2006

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